

VESTEA St.

HATIEGANU, I.; COSMA, V.; VESTE, St.; TANASESCU, R.; BOIERIU, I.; POPESCU, St.;
topan, M.

Aspects of dyskinesia of the large intestine in neuroses. Med. int.,
Bucur. 10 no.1:17-26 Jan 58.

1. Lucrare efectuata in Clinica Medicala I.P.S.M.F., Cluj.

(NEUROSES, manifestations

dyskinesia of large intestine, pathogen., ther. & case
reports)

(INTESTINE, LARGE, diseases

dyskinesia in neuroses, pathogen., ther. & case reports)

VESTRA, St., dr.; SCHWARTZ, M., dr.

Clinical considerations on thrombophlebitis of the upper extremity.
Med. int., Bucur. 11 no. 11: 1745-1749 N '59.

1. Lucrare efectuata in Clinica a III-a medicala, Cluj, director:
acad. I. Hatieganu.

(THROMBOPHLEBITIS)

(ARM, diseases)

(VASCULAR DISEASES PERIPHERAL)

FODOR, O., prof.; VESTEA, St.; BARBARINO, F., dr.

Contributions to the clinical aspects and pathogenesis of splenic diseases of splenic vein origin. Med. intern. 15 no.1:51-58 Ja '63.

1. Lucrare efectuata in Clinica a III-a medicala, I.M.F., Cluj, (director: prof. O. Fodor).

(SPLENOMEGALY)	(HYPERSPLENISM)	(SPLENIC VEIN)
(ABNORMALITIES)	(THROMBOSIS)	(LIVER DISEASES)
(SPLENECTOMY)	(SPLENOPORTOGRAPHY)	(LIVER FUNCTION TESTS)

VESTRA, St.; BACIU, Zoe; NICOARA, Sanda; SCHWARTZ, M.

Some biochemical problems in porphyrias and treatment with
AMP. (Apropos of 2 clinical cases). Stud. cercet. med. intern.
6 no.3:307-314 '65.

VESTEA, St., dr.; BACIU, Zoe, dr.; PASCU, L.; BADEA, Gr.

Pheochromocytoma with attacks of arterial hypotension. Med. intern.
(Bucur) 17 no.6:731-736 Je'65.

1. Lucrare efectuata in Clinica a III-a medicala, Institutul
medico-farmaceutic, Cluj (director: Prof. O. Fodor).

VESTECKA, M.

Vestecka, M.

Mobile repair shop for combines during the harvest. p. 211.

Vol. 5, no. 11, June 1955
MECHANISACE ZEMEDILSTVI

SO: Monthly List of East European Accession, (EEAL), LC, Vol. 4, No.9,
Sept. 1955, Uncl.

VESTEL', A.N. (Kiyev); SHKLYARSKIY, N.D. (Kiyev); KHMELYUK, A.I. (Kiyev)

Changing the structure of an area to service the "christmas tree"
gas wells. Stroi. truboprov. 9 no.10:28 0 '64. (MIRA 18:7)

1. Rabotniki SU-4 tresta Ukgazneftestroy.

USSR/Chemistry - Corrosion

VESTEL', G. M.

FD-3365

Card 1/1 Pub. 50 - 9/20

Authors : Sinayskiy, G. M., Smirnov, N. P., Raspopova, L. V., Vestel', G. M.,
Krist'yan, M. A.

Title : The protection of heat exchangers from corrosion caused by water

Periodical : Khim. prom. No 7, 419-423, Oct-Nov 1955

Abstract : Found that coating of heat exchanger tubes with bakelite reduced
corrosion considerably and improved the heat transfer coefficient
as compared with that of unprotected tubes that had corroded.
Twelve references, all USSR, 4 since 1940. Two figures, 1 graph,
4 tables.

Institution : --

Submitted : --

VESTEL, L.

PA 22/49T102

USSR/Radio Stations
Radio, Amateur

Oct 48

"Radio Amateurs in the Antarctic," L. Vestel', $\frac{1}{2}$ p

"Radio" No 10

Mentions USSR stations received by whaler.
"Slava" in Antarctica 1947-48.

IC

22/49T102

VESTER, R.

New features in the trade of the Estonian S.S.R. Sov. torg. 34
no.4:32-37 Ap '61. (MIRA 14:4)

1. Ministr trgovli Estonskoy SSR.
(Estonia—Retail trade)

DYAD'KIN, Yu.D.; MODESTOV, Yu.A.; KAREPIN, B.G.; VESTERMAN, G.M.

Operation of a protective shield under the effect of impact
loads in free roof caving. Zap. LGI 48 no.1:64-72 '63.
(MIRA 17:8)

VESTERMAN, M.

Revolutionary events in northern Vidzeme. n. 24,
RADIOAMATOR, Warszawa. Vol. 5, no. 3, Mar. 1955.

SOURCE:

East European Accession List (REAL) Library of Congress
Vol. 5, no. 8, August 1956.

VESTERMAN, Ye. S.

GUREVICH, A.O., kand.med.nauk; VESTERMAN, Ye.S.; PORTSIAKHOVA, A.K.

Pathogenesis and clinical aspects of tuberculosis in adolescents.
Pediatriia 36 no.1:29-34 Ja '58.
(MIRA 11:2)

1. Iz Respublikanskogo protivotuberkuleznogo dispansera Latvieskoy
SSR (glavnyy vrach Ye.Ye.Kuznetsova)
(TUBERCULOSIS) (ADOLESCENCE)

VESTERMANIS, M.

Some archive materials on V. D. Ul'rikh and his role in the revolutionary movement in Latvia. Vestis Latv ak no.5:13-18 '61.

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859620014-5

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859620014-5"

Card 1/2

VESTEROV, I.V.; BABUSHKIN, Z.I.; PETHUNIN, A.D.

~~SECRET~~
Clinical aspects and diagnosis of phytobezoars of the stomach. Vest.
khir. Grekova, Leningr. 72 no.1:47-48 Jan-Feb 1952. (CIWL 22:1)

1. Of Yalta Municipal Hospital (Head Physician -- T. P. Belonenko).

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS																																																	
PROCESSES AND PROPERTIES INDEX																																																											
<p>CA 9</p> <p>Ore dressing on stationary inclined planes. E. A. Ventskii, <i>Mekhanicheskii Obrabotki Poverkhnosti Tverdykh</i> (Mechanics of Machining of Solid Surfaces), 18 yrs. Socialist Ind. Service 1, 401 70 (in English 479 RD) (1935). - In a study of dressing of asbestos ore and of coal on stationary inclined planes, the following factors were investigated: angle of incline of plane, distribution of ore, size of material, rate of feeding, scale of classification, type of surface of plane (i. e., iron, glass, rubber) and length of plane. S. L. M.</p>																																																											
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~~VESTERSKIY, P. H.~~
~~VESTERSKIY, N. M., inzh.~~

Excavation work in constructing the earth dam at the site of the
Irkutsk Hydroelectric Power Station. Mekh. stroi. 15 no. 1:8-12

Ja '58.

(MIRA 11:1)

(Earthwork--Cold weather conditions) (Dams)

(Dredging machinery--Cold weather operations)

ROGOVSKIY, I.V., inzh.; MIROPOL'SKAYA, N.K., inzh.; VESTERSKIY, N.M.,
inzh.; NI, V.N., kand.tekhn.nauk; VLASOV, P.Ye., red.izd-va;
YUDINA, L.A., red.izd-va; MEDVEDEV, L.Ya., tekhn.red.;
OSIENKO, L.M., tekhn.red.

[Handbook on building; earthwork] Spravochnik po obshche-
stroitel'nyh rabotam; zemlianye raboty. Moskva, Gos.izd-vo
lit-ry po stroit., arkhitekt. i stroit.materialam, 1960. 425 p.
(MIRA 14:2)

(Earthwork)

Author: Vestral, E. A.
Title: Continuous Vacuum Filtration.
64 pp.
Date: 1949. Moscow
Subject: Filtration and filtration.
Availability: Library of Congress, Call No: TP156.F5V4
Source: Lib. of Cong. Subj. Cat., 1950, vol. 2.

VESTRAL, E. A.

VESTFAL', E. A.

Vakuum-fil'try nepreryynogo deistviia. Moskva, Mashgiz, 1949. 64, (4) p. illus.

Bibliography: p. (66)

Continuous vacuum filters.

DLC: TP156.F5V4

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953

VESTFAL', N.I., aspirant

Colorimetric determination of small quantities of strychnine
recovered from biological material. Apt.delo 7 no.3:27-32
My-Je '58 (MIRA 11:7)

1. Iz kafedry sudebnoy khimii (nauchnyy rukovoditel' - prof.
M.D. Shvaykova) Moskovskogo farmatsevticheskogo instituta
(dir. V.I. Dobtynina).
(STRYCHNINE)

VESTFAL', N.I.

Use of electrodialysis in the medicolegal analysis of alkaloids.

Sud.-med.ekspert. 2 no.3:26-31 JI-S '59.

(MIRA 13:4)

1. Kafedra sudobnoy khimii (zav. - prof. M.D. Shvaykova) farmatsevticheskogo fakul'teta I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova.

(ELECTRODIALYSIS)

(ALKALOIDS)

VESTFAL', N.I.

Qualitative reaction for pachycarpine and methyl caffeine. Apt.
delo 10 no. 2:38-41 Mr-Ap '61. (MIRA 14:4)

1. Kafedra farmatsevticheskoy khimii (ispolnyayushchiy obyzannosti
zaveduyushchego - dotsent G.A. Melent'yeva) farmatsevticheskogo
fakul'teta 1 Moskovskogo ordena Lenina meditsinskogo instituta
imeni I.M. Sechenova.

(PACHYCARPINE) (CAFFEINE)

VESTFAL', N.I.

Isolation of pachycarpine in medicolegal examinations by the
electrodialytic method. Apt. delo 10 no.5:42-46 S-O '61.

(MIRA 14:12)

1. Farmatsevticheskiy fakul'tet I Moskovskogo ordena Lenina meditsin-
skogo instituta imeni I.M.Sechenova.

(PACHYCARPINE) (ELECTRODIALYSIS)

(IDENTIFICATION)

VESTFAL, V. A.

Author: Vestfal, E. A.

Title: Continuous Vacuum Filters.
64 pp.

Date: 1949. Moscow

Subject: Filters and filtration.

Available: Library of Congress, Call No: TP156.F5V4

Source: Lib. of Cong. Subj. Cat., 1950, vol. 2.

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Aging of liquid tanning extract. M. I. Karpman and P. A. Venilrid. *Kochvenno-Obuvaya Prom. S. S. S. R.* 10, No. 1; 23-4 (1940).—Oak ext. when treated with 2% bisulfite can be stored for 30-40 days. Thereafter a sharp increase in the content of sugar and intol. substances is observed in the ext., while the tannin content decreases sharply. A. A. Bochtling

ASAC-31A METALLURGICAL LITERATURE CLASSIFICATION

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APR 1941

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<div style="display: flex; justify-content: space-between;"> 24 29 </div> <p>Extract from the chestnut leaf. M. I. Karpman and F. A. Vestfild. <i>Kochereno-Obyuysa Prom. S. S. R.</i> 19, No. 8, 30-31(1940). --Chestnut leaves when picked soon after dropping, extd. at 100°, and dried yield a dry substance contg. nontanning matter 39.30 and tannin 54.03%, "goodness" 52.74 (an arbitrary designation). The residue can be used as boiler fuel when mixed with oak wood left after extrn. A. A. Borzhinsk</p>																									
<div style="display: flex; justify-content: space-between;"> <div> <p>ASB. 31A METALLURGICAL LITERATURE CLASSIFICATION</p> <p>32001 310221A</p> </div> <div> <p>32001 310221A</p> <p>32001 310221A</p> </div> </div>																									

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The influence of the quality of the water used on the extraction process. M. I. Karpman and F. A. Vostrikov, *Lekhnys Prom.* 1, No. 4, 61 (1941); *Chem. Zvest.* 1943, 11, 1818; cf. C. A. 37, 4371^o.—In the extn. of tanning matter from oak shavings the purity of the water used has a marked influence on the extn. process. Suspended matter and metal salts (Fe, Hg) are especially troublesome. The addn. of a slight amt. of NH_3 (0.07 g./l.) improves the extn. Both NaOH and HOAc have an undesirable effect. M. G. Moore

ASAC-SLA METALLURGICAL LITERATURE CLASSIFICATION

VESTFRID, TS. Yu.

TOLMACHOV, V.N.; VESTFRID, TS.Yu.

Spectrophotometric analysis of the interreactions between zinc ions and purpuric acid. Zhur. neorg. khim. 2 no.1:60-64 Ja '57

1. Nauchno-issledovatel'skiy institut khimii Khar'kovskogo gosudarstvennogo universiteta im. A.M. Gor'kogo.
(Purpuric acid) (Zinc compounds)

VESTITSKIY, M. [Vestytski, M.], lektor; SHISHKIN, I. Shyshkin, I.], lektor

Can we make rain? Rab. i sial. 35 no.7:20 JI '59.
(MIRA 12:12)

1. Moskovskiy planetariy. Deystvitel'nyye chleny Geograficheskogo
obshchestva SSSR.
(Rain making)

ACC NR: AF6026421

(A, N) SOURCE CODE: UR/03/5/66/000/005/0020/0033

AUTHOR: Vestman, O. A. (Captain 1st Rank); Shvarev, Yu. N. (Captain 2d Rank, Candidate of Naval Sciences)

ORG: None

TITLE: Military economic analysis, its tasks and fundamental principles

SOURCE: Morskoy sbornik, no. 5, 1966, 28-33

TOPIC TAGS: government economic planning, economic development, economic organization, economic program, economic system, economics, weapon effect, weapon system, statistic analysis, research program

ABSTRACT: Military economic analysis is still inadequately formulated. There is a need to determine what constitutes a rational system for determining armament costs, based on the particular concepts prevalent in the country in question and on the state of its economy. The military economic problem differs from country to country. Different definitions are discussed with emphasis on the United States version. The formulation of a proper military economic analysis is needed in order to resolve military economic problems. The basic test of such an analysis is that of effectiveness, defined as the ratio of the result (effect) to the expenditures needed to bring them about. In the military field effect is said to be the capacity of the weapon

Card 1/2

ACC NR: AP6026421

system to carry out assigned missions in war. Expenditures include development, manufacture, perfecting, and operating a new system. After studying all these factors, the basic criterion in the selection of one system over another is that of the complex cost of the program. The concept mentioned above gives rise to the last controlling factor in this study, that of justifying a weapon system. The steps to be applied in order to determine which method a country's armed forces as a whole should take in weapon development are suggested.

SUB CODE: 15,05/SUBM DATE: None/ORIG REF: 004

Card 2/2

COUNTRY : CZECHOSLOVAKIA H
CATEGORY : Chemical Technology. Chemical Products and Their
Application. Water treatment. Sewage.
ABS. JOUR. : RZhKhim., No 17, 1959, No. 61256
AUTHOR : Vestrcil, J.
INSTITUTE : -
TITLE : Hydrochemical Characteristic of Ostravitse
River
ORIG. PUB. : Prirodoved. sbor. Ostravskeho kraje, 1958, 19,
No 1, 89-96
ABSTRACT : Presented is the hydrochemical characteristic of
the Ostravitse river, obtained as the result of
an investigation, conducted in 1950-1954. Upst-
ream of Friedlant the river is entirely unpolu-
ted. Downstream of Friedlant it is poluted to a
small degree by the effluent water from a meta-
llurgical plant. Downstream of Vlatimov, where
considerable effluents of the cellulose factories
are dumped into the river, water is poluted to a
great degree. Thereafter, no complete self-puri-
fication is noted over the remaining length of
the river. -- V. Berenfel'd.

Card: 1/1

H - 14

1. VESVIZHSKIY, O. A.
2. USSR (600)
4. Kilns, Rotary
7. Welded shells of rotary kilns. TSement 18 No. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

4794. PHENOLS FROM ~~SEMI~~-COAL TAR OR ITS DERIVATIVES. Barna (sen-
feldolgozo es Veszipari R.T. and Erapati, J. (Hungarian P. 132,192/
1943; abstr. in Chem. Abstr., 1948, vol. 42, 9120).

Distillation products of brown coal tar or its derivatives obtained
below 240° are fractionally extracted with not more than 2 parts of 40-60%
aqueous alcohol. The alcohol is distilled off, the more volatile im-
purities are separated by known azeotropic methods, the less volatile
ones are oxidized with air, and refined phenols are distilled.

ASB.SLA METALLURGICAL LITERATURE CLASSIFICATION

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200

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401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500

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1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
PROCESSES AND PROPERTIES MODE																			
BC										A-4									
<p> Renin content of infants' urine. G. SHERMAN and L. VERNER. (Quart. Revs., 1963, 77, 757— 760).—Urine (I) of infants contains no renin (II) when they are fed with human-milk. If about half of the necessary milk is replaced by other food, (II) appears in the (I). This also occurs, independently of the food ingested, in toxicosis. Nutr. Abs. (n) </p>																			
ASM-55A METALLURGICAL LITERATURE CLASSIFICATION																			
10000 100 000 000										10000 100 000 000									
10000 100 000 000										10000 100 000 000									

VESZELAK, L., inz.

Two-decker railroad cars for transportation of automobiles. Zel dep
tech 10 no. 1:24-25. '62

VESZELAK, Robert

Development of our district heating systems. Magyar ep ipar
11 no.3:129-132 '62.

BC A 1

PROCESSES AND PROPERTIES INDEX

Thinking of the construction of the structure of complex substances. (G. V. Kuznetsov, 1964). In: Kuznetsov, G. V. - Russian papers indicate a Kuznetsov-Kuznetsov-Kuznetsov system rather than being a Kuznetsov-Kuznetsov-Kuznetsov system. (r)

ASTM-A10 METALLURGICAL LITERATURE CLASSIFICATION

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<p>Ca</p> <p>Two organic reactions producing chemiluminescence. Other Yend. <i>Technique</i> Kurie B. 7 (1937); cf. C. A. 31, 6670. Chemiluminescent reactions seem to be strongly exothermic. Highly fluorescing substances mostly show also chemiluminescence. The highest observed value in homogeneous gas reactions is 0.1 quantum per mol. Values are significantly less in liquid systems. The highest values of liquid systems are shown by (1) oxidation of aminophthalhydrazide with H_2O_2 (giving 0.005 quantum per mol.) and (2) the oxidation of biacridine (with higher</p> <p>$C_{10}H_8$, $C_{10}H_6$, butane, isobutane, pentane, isopentane, Me_2C, hexane, 2-methylpentane, 3-methylpentane, 2,3-</p>	
<p>ASB-51A METALLURGICAL LITERATURE CLASSIFICATION</p>	
<p>SECTION 1</p>	<p>SECTION 2</p>

VESZI, Laszlo

Let us debate about motor sport! Auto motor 14 no.1:28 Ja '61.

1. "Pannonia szocialista'motorszerelo brigad" vezetoje

JOSFAY, Gyorgy; EBERGENYI, Ilona; VIG, Aniko; KATONA, Eva; GUGCS(), Hilda(Csepel);
KOKAY, Peterne; VESZPREMI, Barnane, dr.

Economical women - outstanding innovators. Ujit lap 13 no.24:12-13
D '61.

1. Kerekpargyar technikus, Csepel (for Ebergenyi) 2. Motorkerekpargyar
technologusa, Csepel (for Vig) 3. Femmu kutatomernoke, Csepel (for
Katona) 4. Ontode anyagbeszerzoje, Csepel (for Kokay) 5. Kozponti
Anyavisszago kivalo dolgozoja (for Veszpremi).

VESZTROCZY, Erno; KONDASZ, Istvan

Layer resistors. (To be contd.) Radiotechnika 10 no.5:133-134 My '60

VESZTRCCZY, Erno; KONDASZ, Istvan

Layer resistors. (To be contd.) Radiotechnika 10 no.7:223 J1 '60.

VESZTROCZY, Erno; KONDASZ, Istvan

Layer resistors. Radiotechnika 10 no.8:252-254 Ag '60.

VESZTROCY, Erno; KONDASZ, Istvan

Layer resistors. Radiotechnika 10 no.10:311 0 '60.

8(4)

SOV/91-59-6-17/33

AUTHOR: Vetchaninov, Ye.Z., Electrician

TITLE: An Electric Heater for an Electrolytic Installation

PERIODICAL: Energetik, 1959, Nr 6, p 22 (USSR)

ABSTRACT: The regular electric heater for the SEU-4 electrolytic installation, used for heating up the air used for regeneration of silica gel in drying columns, often went out of action because of burned out spirals, caused by deformation of the cores. An unidentified power station has constructed a simple and reliable electric heater shown schematically on page 22. It consists of a transformer with a core of transformer steel 120 cm² in cross section. The primary winding is made of insulated copper wire, is calculated for 380v, 18a. The secondary winding, made of a stainless steel pipe 22 mm in diameter, has the form of a coil and consists of 6 loops. Its ends are short-circuited by

Card 1/2

SOV/91-59-6-17/33
An Electric Heater for an Electrolytic Installation

a welded-on busbar. The rate of air preheating is regulated by the number of loops of the primary winding. When the primary winding is fed by with 380v current, the secondary current appears in the coil and heats up the air contained therein. There is 1 circuit diagram.

Card 2/2

VETCHENKO, A. Kh., kandidat tekhnicheskikh nauk

Problem of accurate calculation of railroad tracks subjected to
the action of static vertical forces. Trudy TSNII MPS no. 97:5-
24 '55. (MIRA 8:12)

(Railroads--Track)

TRAVNIKOV, N.; VETCHININ, N.

They work like communists should. NTO 4 no.1:20-24 Ja '62.
(MIRA 15:1)

(Moscow--Clockmaking and watchmaking)

VETCHINKIN, A.

Economical automobile radio. Radio no.6:46-47 Je '60.

(MIRA 13:7)

(Radio--Receivers and reception)

VETCHINKIN, A. R.

Vetchinkin, A. R. - "The present importance of natural organic dyestuffs," Trudy
Sarat. ekon. in-ta, Vol II, 1949, p. 253-74, - Bibliog: 30 items

SO: U-5240, 17, Dec. 53, (Letopis 'Zhurnal 'nykh Statey, No. 25, 1949),

~~VETCHINKIN, A. N.~~

Dissertation defended for the degree of Candidate of Technical Sciences at the Institute of Earth Physics imenē O. Yu. Shmidt in 1962:

"Registration of Seismic Vibrations Using Data Storage and a Capacitative Seismograph."

Vest. Akad. Nauk SSSR. No. 4, Moscow, 1963, pages 119-145

VETCHINKIN, A. N.

The Simplest Line Receivers (Prosteyskiye setevyye priyemniki) ~~1958~~
~~1958~~ Gosenergoizdat, 58 pp, 1951.

Book W-22517, 29 Apr 52

VETCHINKIN, A. N.

PA 190T103

USSR/Radio - Television
Receivers

Jun 51

"The Moskvich Television Set With a 23LK1-B Picture
Tube," A. Vetchinkin

"Radio" No 6, pp 42, 43

Synchronization of present Moskvich Television re-
ceivers is poor. Describes revised scanning unit
for Moskvich with 23LK1-B picture tube (larger than
now used), including modified supply and synchroni-
zation circuits. Those not wishing to convert to
larger picture tube need change only the synchroni-
zation unit.

190T103

VETCHINKIN, A. N.

USSR/Electronics — Phase - Measuring systems

Card 1/1 ; Pub. 89 - 26/29

Authors ; Vetchinkin, A.

Title ; Measurement of phase differences

Periodical ; Radio 7, 56-58, July 1954

Abstract ; Simplified methods of several phase-measuring systems in use by radio amateurs, their fields of application, principle of operation and relative values are discussed. The following instruments are described and their circuit diagrams given: 1) An oscillographic type of phase meter, 2) a graduated rotary-type phase meter and 3) a vacuum-tube phase meter. Reference is also made to the use of a goniometer or a phase inverter, built on the bridge principle, and to various component parts. Diagrams.

Institution : ...

Submitted : ...

VETCHINKIN, A. N.

USSR/Electronics/Television

Card 1/1

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859620014-5"

Author ; Vetchinkin, A. N., engineer

Title ; Television theater

Periodical ; Nauka ' Zhizn' 21/2, 35, Feb/1954

Abstract ; Television showings are already in active operations at the Hermitage theater in Moscow, on a screen 3 x 4 meters. A special picture tube had to be made for this purpose, which gives extraordinary brightness and to obtain a sufficiently powerful electron beam a current of 60,000 volts is used. Instead of lenses concave mirrors are used for magnification. The scientific factors involved in the special devices are explained. A special directional antenna is used for reception.

Institution :

Submitted :

VETCHINKIN, A. N.

USSR/ Electronics - Measuring instruments

Card 1/1 Pub. 89 - 20/26

Authors : Parkhomenko, V., and Vetchinkin, A.

Title : Recording infrasonic frequencies

Periodical : Radio 4, 40-42, Apr 1955

Abstract : The recording of infrasonic frequencies, i. e. frequencies below the audible range is discussed, and a description is presented of electromagnetic tape recorders and oscillographic instruments utilized for the above purpose. Graph; drawing; circuit diagrams.

Institution :

Submitted :

VETCHINKIN, A.N.

Weak current stabilizers. Priib. 1 tekhn. eksp. no.3:97-99 My-Je
'60. (MIRA 14:10)

1. Institut fizicheskikh problem AN SSSR.
(Photoelectric measurements)

9,5110 (also 1055, 1072, 1137)
54800 1043, 1273, 1164

20716

S/120/61/000/001/059/062
E032/E114

AUTHOR: Vetchinkin, A.N.

TITLE: Stabilization of Low Temperatures in Helium Cryostats

PERIODICAL: Pribery i tekhnika eksperimenta, 1961, No.1, pp.192-193

TEXT: The device described in the present paper is designed to stabilize the temperature of a helium bath to within 10^{-5} °K below 2.18 °K. The stabilizer is illustrated schematically in Fig.1. In this figure R_1 is a 100 ohm constantan resistor, R_2 is a 35 ohm phosphor-bronze element, R_5 is a 200 ohm constantan resistor and A is a 6 V accumulator. The resistor R_3 is variable and is adjusted to balance the bridge at a given temperature. The temperature can be re-established at any desired level with the aid of the special amplifier-converter coupled to the bridge as shown in Fig.1. The basic circuit of the converter is shown in Fig.2. The amplifying device consists of the photo-compensated amplifier Φ -17/1 (F-17/1) described by B.A. Seliber and S.S. Rabinovich (Ref.3) and produced by the "Vibrator" Factory (Leningrad). It also incorporates a vacuum tube amplifier and a dc-to-ac converter. The converter supplies the heater which is
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20716

S/120/61/000/001/059/062
EO32/E114

Stabilization of Low Temperatures in Helium Cryostats

placed in the helium bath together with the phosphor bronze element. The heater is supplied with ac in order to eliminate leakage currents between the element and the heater. This is necessary because the amplifying device is sensitive to voltages in the millimicrovolt range. As can be seen in Fig.2, the photocompensated amplifier F-17/1 is connected to a 2-stage dc amplifier incorporating the 6H2П (6N2P) tube. The F-17/1 and the first amplification stage incorporate a frequency dependent feedback loop ensuring stable working conditions even with very high regulation coefficient. The 6N3P tube supplies the heater through the output transformer which serves as a current converter. The two sections of the primary of the output transformer are so arranged that the core is not magnetized by the dc component of the anode current and this considerably increases the regulation coefficient. The maximum current through the heater is 100 mA and can be reduced by a variable 1000 ohm resistor. The regulation coefficient can be reduced with the aid of the key П₁.

There are 2 figures and 3 references: 1 Soviet and 2 English.

Card 2/4

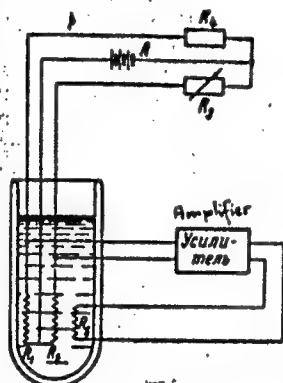
20716
S/120/61/000/001/059/062

Stabilization of Low Temperatures ... E032/E114

ASSOCIATION: Institut fizicheskikh problem AN SSSR
(Institute of Physical Problems, AS USSR)

SUBMITTED: December 3, 1959

Fig. 1



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33517

S/619/61/000/019/007/019
D039/D112

3.9300 (1019,1327)

AUTHORS: Vetchinkin, A.N.; Preobrazhenskiy, V.B.

TITLE: An automatic seismic recording unit with a magnetic memory

SOURCE: Akademiya nauk SSSR. Institut fiziki Zemli. Trudy, no. 19 (196).
Moscow, 1961, Seysmicheskiye pribory, 52-56

TEXT: The authors describe an automatic seismic recording unit with a magnetic memory consisting of a ferromagnetic tape continuously moving past successively placed recording, reproducing and erasing heads. Normally the signal is erased by the erasing head, but if it exceeds a certain level due to seismic activity, it is automatically recorded by a magnetoelectric light-beam oscillograph on photographic tape. The disadvantages of the helical-line recording method are thus avoided and photographic material saved. The recordings are also suitable for automatic mechanical processing. The memory time of 6 secs permits recording of the period immediately preceding the seismic process. The magnetic drum of the memory is driven by a synchronous motor. The unit has six operational channels and one auxiliary channel. The frequency range of the recorded vibrations is

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b7D/b7C/b7E
609

An automatic seismic

0.1-7.0 cycles per second. Pulse-frequency modulation with a carrier frequency of 300 cycles per second is used. The dynamic range is 50 db. Re-recording from the magnetic drum is performed by type ОП-15 (OP-15) or other oscillographs or else specially adapted ПОБ-12М (POB-12M) oscillographs. The oscillograph contains six ГБ-III-Б-5 (GB-III-B-5) galvanometers. The width of the photographic tape is 12 cm. A quartz clock or contact chronometer is used for the time marks. Power supply is 12 v d.c. The power consumption under normal conditions is 40 w, during the re-recording process - 50 w. The unit (without oscillograph) is 470 x 470 x 525 mm in size and weighs 35.5 kgf. The magnetic recorder of the unit was developed by A.N. Vetchinkin and the OP-15 oscillograph by V.B. Trobrachenskiy. Field tests of the seismic recording unit were conducted at the ГИ-мичешская stantsiya Garm (Garm Seismic Station). In these tests, the ВЭГМК (VLOGIK) seismograph with a resistance coil of 1,000 ohms was used as a pickup. The POB-12M magnetolectric oscillograph served for re-recording. The unit operated for 1 month and recorded all earthquakes with an amplitude of more than 3 mm on the recordings. The new unit can be used at temporary and permanent seismic stations. In experi-

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S/619/61/000/019/007/019

D039/D112

An automatic seismic

mental batch is now being produced at the SKB Institute of Physics of the Earth, AS USSR), and will later be subjected to thorough tests at Soviet seismic stations. There are 3 figures and 5 Soviet-bloc references.

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Card 3/3

VETCHINKIN, A.N.; KARIMOV, Yu.S.; SHCHEGOLEV, I.F.

Field stabilizer for laboratory electromagnets. Prib. i tekhn. eksp.
10 no.1:182-184 Ja-F '65. (MIRA 18:7)

VETCHINKIN, A.N.; DIATROPTOV, D.B.; ZHDANOV, K.'.; NEDELYAYEV, A.P.

Microwave dosimeters. Elektron. bol'sh. moshch. no.2:157-166 '63
(MIRA 17:7)

ACCESSION NR: AT4015880

S/3055/63/000/002/0157/0166

AUTHORS: Vetchinkin, A. N.; Diatroptov, D. B.; Zhdanov, K. A.;
Nedelyayev, A. P.

TITLE: Dosimeter for electromagnetic oscillations in the decimeter
band

SOURCE: AN SSSR. Fizicheskaya laboratoriya. Elektronika bol'shikh
moshchnostey (High-power electronics), no. 2, 1963, 157-166

TOPIC TAGS: dosimeter, microwave equipment radiation, stationary
dosimeter, portable dosimeter, alarm dosimeter, flux density measure-
ment, incident energy measurement

ABSTRACT: A special dosimeter is described for use around high-
power microwave generators. Unlike standard dosimeters, this re-
quires fewer manual operations and is more automatic. The dosimeter
antenna is a 3 cm loop loaded by a crystal detector through a dissi-

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ACCESSION NR: AT4015880

passive attenuator. The dosimeters operate with continuous oscillation only (pulsed operation of the generator may spoil the dosimeter) and come in three types. The loop efficiency is approximately 7%. Three types of dosimeters are described: (1) stationary with mechanical displacement of loop (to eliminate the effect of standing waves in the room), which reads the energy flux density (from 20 to 200,000 microwatt per square centimeter) and which integrates the incident energy (from 0.001 to 10 J/cm²); (2) pocket type, which integrates the incident energy from 0.01 to 100 J/cm² at a flux density from 0.1 to 10 mW/cm²; (3) portable sound alarm, which produces a signal at a set power flux level from 0.1 to 1 mW/cm². The stationary dosimeter uses vacuum tubes, while the pocket and sound-signal dosimeters are transistorized and fed from dry cells. "The authors are grateful to P. L. Kapitsa for support of this work and to V. P. Peshkov for many valuable hints. "Orig. art. has: 6 figures and 3 formulas.

Card 2/3

ACCESSION NR: AT4015880

ASSOCIATION: Fizicheskaya laboratoriya AN SSSR (Physics Laboratory,
AN SSSR)

SUBMITTED: 00

DATE ACQ: 25Jan64

ENCL: 00

SUB CODE: GE, SD

NR REF SOV: 000

OTHER: 000

Card 3/3

VETCHINKIN, A.N.

Electronic seismograph with capacitance pickup. Izv. AN SSSR. Ser.
geofiz. no.4:485-490 Ap '62. (MIRA 15:4)
(Seismometry--Observations)

VETCHINKIN, A.N.

Log microvoltmeter. Prib. i tekhn. eksp. № no.4:157-158 J1-Ag '61.
(MJRA 14:9)

1. Institut fizicheskikh problem AN SSSR.
(Voltmeter)

36052

S/049/62/000/004/001/003
D201/D301

3.9300

AUTHOR:

Vetchinkin, A.N.

TITLE:

A capacitive pick-up electronic seismograph

PERIODICAL:

Akademiya nauk SSSR. Izvestiya. Seriya geofizicheskaya
no. 4, 1962, 485 - 490

TEXT: The author describes an electronic seismograph with a capacitive pick-up and frequency conversion, whose null-point is stabilized by negative feedback. The HF generator frequency f_1 is controlled by the varying capacity c_p of the pick-up. The latter is formed by a metal plate capacitor, with one plate mounted rigidly on the seismograph pendulum and the other plate earthed. This capacity varies owing to the non-stable equilibrium position of the pendulum and owing to the temperature and plastic deformation of the balance spring; this deformation is many times greater than the displacements of the earth's surface which have to be registered and remains so even when the special alloy springs are used. The null-indication stability is achieved by applying a frequency-dependent negative

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A capacitive pick-up electronic ...

S/049/62/000/004/001/003
D201/D301

ve feedback. A normal dynamic seismograph is used. An isolated 50 cm² metal plate, rigidly mounted to the pendulum, forms the capacitive sensing device of its displacement. In the working position this plate is at distance of 1 - 1.2 mm from the chassis of the instrument and forms part of the oscillating tank circuit capacitance. The fixed frequency oscillator works at 900 kc/s and the frequency changer produces a 300 c/s beat note with the seismograph. The beat note is transformed into pulses by a pulse-shaping circuit and these pulses are recorded on a magnetic tape. This signal may also be recorded by an automatic printer. The d.c. voltage component, proportional to the spacing between the plates of the pickup capacitor is compared with a reference voltage and the difference, through a LP filter, is applied to the seismograph coil which is placed in a permanent magnet field. The coil is rigidly fixed to the pendulum spring and the pick-up plate. The LP filter is designed so as to attenuate heavily the seismic oscillations, but passes frequencies with periods corresponding to the day and seasonal temperature changes and also to the slow periods corresponding to the plastic deformations of the spring. The heavy negative feedback thus stabilizes the distance between the capacitor plates. Both os-

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A capacitive pick-up electronic ...

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cillation use П-402 (P-402) transistors. The oscillator coils use ferrite pot-cores СБ-1 (SB-1). To avoid the pulling-in effect between the two oscillators, both are thoroughly screened and connected to the mixer through buffer stages. Since January 1961 the described instrument has been in use at the Moscow Seismic station. The seismograph gain is 30,000 for periods of 1 - 3 sec. The author acknowledges the help of Ye.F. Saverenskiy and S.A. Fedorov. There are 6 figures and 3 Soviet-bloc references.

SUBMITTED: June 16, 1961

Card 3/3

VETCHINKIN, A.N.

Low-temperature stabilizer for helium cryostats. *Trub. i tekhn.*
eksp. 6 no.1:192-193 Ja-F '61. (MIRA 14:9)

1. Institut fizicheskikh problem AN SSSR.
(Cryostat)

VETCHINKIN, A.N.; PREOBRAZHENSKIY, V.B.

Automatic seismic recording unit with a magnetic memory. Trudy
Inst. fiz. Zem. no.19:52-56 '61. (MIRA 15:3)
(Seismometers)

LIST AND GROUPS		PROCESSES AND PROPERTIES INDEX		AND OTHER GROUPS	
<p><i>The Corrosion of Metals in the Presence of Anthocyanins and Tanning Substances. A. B. Yetchipkin (Zapiski Saratov. Planovogo Inst., Voprosy Ispol'zovaniya Mestnykh Resursov (Mem. Saratov Planning Inst., Questions of the Utilization of Local Resources), 1946, (7), 136-138; Khim. Referat. Zhur., 1947, 4, (2), 116; C. Abstr., 1943, 37, 3726).—[In Russian.] Corrosion tests on tinplate and tin (used for the production of food-preserving cans) in 0.1N-H₂SO₄ containing anthocyanin obtained from red beets indicate that anthocyanin increases corrosion. Tannin solutions cause a strong corrosion of iron, steel, and lead. They affect zinc and tin to a smaller degree, and have almost no effect on copper and aluminum. Gelatin and agar-agar added to tannin do not prevent corrosion. Alkaline solutions of tannin do not affect iron.</i></p>					
<p>ASD-11A METALLURGICAL LITERATURE CLASSIFICATION</p>					
STORY SYMBOLS		STORY MAP ONLY SET		STORY SYMBOLS	
STORY SYMBOLS		STORY MAP ONLY SET		STORY SYMBOLS	

VETCHINKIN, A.R. (g.Saratov)

Indicators prepared from plants. Khim.v shkole 14 no.4:61-62
J1-A4; '59. (MIRA 12:11)

(Indicators and test papers)
(Rumex)

VETCHINKIN, G. A. and GANNELY, V. Ya.

"On the problem of protection of asynchronous motors with short circuited rotors,"
Industrial Power, 7th edition, 1952.

GANNEL', V.Ya., inzh.; VETCHINKIN, G.A., inzh.

Increase in the reliability of a.c. relay protection.
Energetik 8 no.9:17-18 S '60. (MIRA 14:9)
(Electric relays) (Electric protection)

IVANTSOV, A.I.; CHAVKIN, Kh.M.; VETCHINKIN, N.I.

Gear teeth measuring stand ~~PMZ~~-5. Stan. 1 instr. 24 no.6:25-23 Je '53.
(MLRA 6:7)
(Gearing) (Gauges)

[illegible]

VECHINKIN, N. S.

Gas producer for powdered fuel. N. S. Vetchinkin²
and I. A. Men'shikov. Russ. 81,507, Aug. 31, 1937.
Construction details.

ca

21

COMMON ELEMENTS

DETAILS INDEX

ASSOCIATED METALLURGICAL LITERATURE CLASSIFICATION

STOCK NUMBER

VETCHINKIN, N. S.

IAkutsko-Chukotskaia avtomagistral' dlia Velikogo severnogo vozdušnogo puti.
[Yakut-Chukotskaia highway for the Great Northern Airway]. (Doroga i
avtomobil', 1937, no. 10, p. 2-6, maps). DLC: TEL-D6

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress,
Reference Department, Washington, 1952, Unclassified.

VETCHINKIN, N.S., doktor tekhnicheskikh nauk.

Determining the operating capacity of automobile and tractor engines. Avt.trakt.prom. no.10:3-4 0 '54. (MLRA 7:10)
(Automobiles--Engines)

VETCHINKIN, N. S.

USSR/Engineering - Logging tractor

Card 1/1

Author : Vetchinkin, N. S., Prof.

Title : Floating tractor

Periodical : Nauka i Zhizn' 21/4, 33, April 1954

Abstract : The experimental factory of the Central Scientific Institute for Water Transportation of Logs has developed the VL-3 tractor, a very powerful machine which is capable of going over rough terrain and through water. It is also equipped with a derrick. The machine is 7.5 meters long, 3.1 meters wide and 2.85 meters high. Photographs.

Institution :

Submitted :

for the 1st 1/3
VITCHINKIN, N.S., prof.

The electrification of lumber transportation, Mekh. trud. rab. 11
no.10:11-14 0 '57. (MIRA 10:11)
(Lumber--Transportation)

VETOHINKIN, N.S., prof.

First Russian road machinery. Avt.dor. 22 no.11:23-24
N '59. (MIRA 13:2)
(Road machinery)

VETCHINKIN, Nikolay Sergeyevich, prof.; KORUNOV, M.M., kand.tekhn.nauk,
retisenzent; SOLOV'YEV, N.S., red.; PITELMAN, Ye.L., red.isd-va;
PRUKOP'YEVA, L.N., tekhn.red.

[Truck tractor transportation of logs, principles of hauling
estimates and truck performance] Avtotraktornaya tiaga na
lesotransporte; osnovy tiagovykh raschetov i proizvoditel'nost'
mashin. Izd.2., perer. i dep. Moskva, Goslesbumizdat, 1958.
420 p. (MIRA 12:6)

1.Kafedra tyagovykh mashin Lesotekhnicheskoy akademii im. S.M.
Kirova (for Korunov).
(Lumber--Transportation) (Motortrucks)

VETCHINKIN, S.I.

Use of hypervirial correlations in evaluating energy displacement. Teoret. i eksper. khim. 1 no.4:423-427 '65.

(MIRA 18:10)

1. Institut khimicheskoy fiziki AN SSSR, Moskva.

5 (4)

AUTHORS:

Vetchinkin, S. I., Pshenichnov, Ye. A., SOV/76-33-6-16/44
Sokolov, N. D.

TITLE:

Influence of the Hydrogen Bond on the Energy of the Ion Lattice of Ammonium Chloride and Evaluation of the Affinity of Ammonia Molecules to the Proton (Vliyaniye vodorodnoy svyazi na energiyu ionnoy reshetki khloristogo ammoniya i otsenka srodstva molekuly ammiaka k protonu)

PERIODICAL:

Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 6, pp 1269-1274 (USSR)

ABSTRACT:

It may be assumed that in ion crystals containing H_3O^+ or NH_4^+ ions, between cation and anion beside the Coulomb forces there is a hydrogen bond which increases the stability of the ion lattice. Usually, in energy computations this hydrogen bond is not considered (e.g. reference 1), which leads to a lesser result in computations of ion lattice energy. If, however, the exact ion lattice energy (IE) is known, the important molecular constant - the proton affinity (P) of the molecule - may be computed according to equation (1). The recently obtained value of Ref 3 for the (P) of the water molecule

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Influence of the Hydrogen Bond on the Energy of the Ion Lattice of Ammonium Chloride and Evaluation of the Affinity of Ammonia Molecules to the Proton SOV/76-33-6-16/44

is lower by 19 kcal as compared to the value obtained according to Ref 2, which points to the fact that in the computations per (Ref 3) the effect of the hydrogen bond between cation and anion was neglected. From quantum-mechanical computations (Ref 5) of the energy of interaction of the molecule A - H with the atom B (which exhibits an undivided electron pair) the following equation was derived: $W = Q + P_1\omega - P_2$ (2)

(Q = Coulomb energy, $P_1\omega$ = repulsive energy between H and B, P_2 = exchange (or donor-acceptor) energy of the attraction between H and B). An investigation is then made of the applicability of equation (2) to the computation of

interaction between the cation NH_4^+ and anion Cl^- in the NH_4Cl crystal and it was found that by the selected semiempirical computation method a computation is possible only if $P_2 = 0$

is assumed, by which a lower (IE) is obtained. The change of the (IE) caused by the hydrogen bond is assumed to be of the

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Influence of the Hydrogen Bond on the Energy of the Ion Lattice of Ammonium Chloride and Evaluation of the Affinity of Ammonia Molecules to the Proton SOV/76-33-6-16/44

same magnitude as the last mentioned decrease in the (IE). From this point of view a computation of the lattice energy for ammonium chloride is made and it is found that the correction of the computation according to Bleick (Ref 1), in which the hydrogen bond was neglected, must be of the magnitude 10 kcal, and, consequently, the value $P_{\text{NH}_3} = 194 \pm 7$ kcal. There are 1 figure, 1 table, and 10 references, 7 of which are Soviet.

ASSOCIATION: Akademiya nauk SSSR, Institut khimicheskoy fiziki, Moskva (Academy of Sciences of the USSR, Institute of Chemical Physics, Moscow)

SUBMITTED: October 31, 1957

Card 3/3

68329

SOV/51-8-1-36/40

24,3400

AUTHORS: Vetchinkin, S.I., Solodovnikov, S.P. and Chibrikov, V.M.

TITLE: Distribution of Spin Density in the Chromium Dibenzene⁺ Cation

PERIODICAL: Optika i spektroskopiya, 1960, Vol 8, Nr 1, pp 137-140 (USSR)

ABSTRACT: Chromium dibenzene is a representative of a new type of compounds known as sandwich type compounds. In these compounds the metal atom is not bound to a single carbon atom but to the whole π system of an aromatic hydrocarbon (Refs 1, 2). The present paper deals with distribution of the spin density in the chromium dibenzene cation. The spin density was found from the hyperfine structure (h.f.s.) from electron paramagnetic resonance (e.p.r.) spectra of strongly diluted solutions of the chromium dibenzene cation and solutions of chromium dibenzene cations with isopropyl and cyclohexyl substituents in both benzene rings. Fig 1 shows the e.p.r. spectrum of the chromium dibenzene cation obtained in an acetone solution at -70°C . From the ratio of the h.f.s. intensities and the constancy of the hyperfine splitting ($3.6 \pm 0.5 \text{ Oe}$) it follows that the unpaired electron interacts with protons of both benzene rings; all twelve protons in these rings act in the same way. Voevodskiy, Molin and Chibrikov (Ref 7) found that introduction of a hydrocarbon substituent did not alter the magnitude

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Distribution of Spin Density in the Chromium Dibenzene Cation

of the hyperfine splitting and that the number of the h.f.s. components represented the number of the remaining protons in both benzene rings. A more detailed investigation carried out by the present authors showed that in the spectrum of the chromium dicumene cation (Fig 2, at -90°C) each component of the ring proton h.f.s. is split into a triplet with a separation close to 1.0 Oe. This additional triplet splitting is due to splitting on both α -protons of the isopropyl substituents. Similar effects were observed in the case of the chromium dibenzene cation with a cyclohexyl substituent in both benzene rings. Bubnov and Chibrikina (Ref 8) reported additional hyperfine splitting in the spectrum of the chromium dibenzene cation in solution, which was ascribed to interaction of the unpaired electron with a magnetic moment of the Cr^{53} isotope which is present in the natural chromium. This was also found by the present authors and is shown in Fig 3; the hyperfine splitting between the h.f.s. components of chromium amounted to 19.0 Oe. All the e.p.r. spectra reported by the authors were recorded with a spectrometer described earlier (Ref 9). McConnell and Chestnut (Ref 11) suggested an indirect interaction to explain hyperfine splitting of the proton of the C-H group and showed that this splitting is proportional to the spin density at the p_z -orbital of the carbon atom in the C-H group. In the first approximation the coefficient of proportionality Q , between the hyperfine splitting and the spin density is constant for all aromatic

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Distribution of Spin Density in the Chromium Dibenzene Cation

SOV/51-8-1-36/40

radicals and ion-radicals. If it is assumed that the coefficient Q is the same in metal-aromatic compounds, then the observed proton hyperfine splitting (3.6 Oe) shows that the spin density in the P_z -orbit of a single carbon atom is 0.16. Since all protons are equivalent, the spin density at all the carbon atoms is the same. It follows that the spin density in the π system of both benzene rings is equal to 1.92. In order to reduce the total spin density of the whole molecule of the chromium dibenzene cation to unity we have to assume that the spin density at the atomic orbits of chromium is 0.92 and its sign is opposite to the sign of the density at the benzene rings. The requirement of normalization of the spin density to unity follows from the fact that the chromium dibenzene cation has only one unpaired electron (Ref 5). The authors show that other evidence (Refs 12, 13) also supports the suggested spin density. Acknowledgments are made to Yu.A. Sorokin and G.A. Domrachev for preparation of the compounds studied. There are 3 figures and 15 references, 9 of which are Soviet, 4 English and 2 German.

SUBMITTED: June 1st, 1959

Card 3/3